



CHESHIRE COUNTY COUNCIL.

EDUCATION DEPARTMENT.

REPORT

OF THE

Chief School Medical Officer

FOR THE YEAR

1922,

BY

MEREDITH YOUNG,

M.D., D.P.H., D.S.Sc.

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CHESHIRE COUNTY COUNCIL.

EDUCATION COMMITTEE.

INTRODUCTION.

MR. CHAIRMAN, LADIES AND GENTLEMEN,

In presenting you with my Report on the Medical Inspection Scheme of your Committee there are a few outstanding matters to which I would like to draw your special attention.

Over twenty-three thousand individual children were examined during the year.

Including the children examined by the School Oculists and School Dentist 11,597 children were referred for treatment. Of these 7,567 children completed their treatment during 1922, that is about 61 per cent.—a reasonably high figure though not so good as in many other County Areas.

The work of medical inspection has been maintained at a high level of efficiency and my only regret in this connection is that owing to the demands of routine inspection it has only been possible to a limited extent to enter upon special inquiries or investigations. There are many problems connected with disease in children which require much more detailed research than has been practicable up to now and it is only natural that with such abundant material at hand one should wish to analyse them. I am, however, still waiting and hoping for suitable opportunities.

I realise the fact that whilst money stands at its present value it is dangerous to suggest any further expenditure. But I must continue to point out with all respect that the School

dental service is obviously utterly inadequate. Your Committee know well the enormous benefits of this service. I do urge its extension, therefore, as undoubtedly the most pressing need of the whole medical inspection scheme.

By way of apology for the brevity of this Report I need only say that it becomes more difficult every year to make it anything more than a mere skeletal record of facts—and of facts too which vary but little from those related and commented upon previously.

I cannot conclude this Introduction without thanking everyone who has been associated with me in this scheme for consideration, support and help which have been given freely and cordially whenever necessary.

I am,
 Mr. Chairman, Ladies and Gentlemen,
 Your obedient Servant,
 MEREDITH YOUNG.

MEDICAL INSPECTION.

STAFF.

School Medical Officer:

MEREDITH YOUNG, M.D., D.P.H., &c.

Assistant Medical Officers:

A. V. STOCKS, M.A., M.B., Ch.B., D.P.H.

W. J. McIVOR, B.A., M.B., Ch.B., D.P.H.

GLADYS RUSSELL, M.B., Ch.B.

G. SCOTT CRAIG, M.A., M.B., Ch.B., D.P.H.

Ophthalmic Surgeons:

G. AUBREY JELLY, M.R.C.S., L.R.C.P., D.P.H.

CYRIL JACOB, M.B., B.S.

School Dentist:

S. WHITWORTH, L.D.S.

Health Visitors: 31.

Dental Nurses: 2.

Chief Clerk:

VINCENT O'CONNOR.

CHESHIRE COUNTY COUNCIL.

EDUCATION COMMITTEE.

ANNUAL REPORT

OF THE

CHIEF SCHOOL MEDICAL OFFICER,
1922.

Co-ordination.

This is kept at the same close level as heretofore and I do not think that any improvement is possible. The Health Visitors also carry out duties under the Maternity and Child Welfare, the Tuberculosis and the Mental Deficiency Act Schemes. All the agencies for child-welfare work harmoniously together and their relations have at no time been strained.

School Hygiene.

From time to time the Follow-up Sanitary Reports indicate matters which call for attention. These are at once handed on to the Secretary for Elementary Education and the Managers concerned. Reports of the work which has been carried out come to me and in the necessary cases I visit and inspect, confer with Managers and so on. I think, without exception, our requirements have been reasonably and promptly met, due regard being had to the existing financial stringency. Probably the most frequent complaint has been one referring to the unsatisfactory condition of playgrounds.

Dr. Gladys Russell reports on her schools as follows:—

‘A ‘follow-up’ sanitary report was made of each school visited, which pointed out any condition requiring attention.

Water Supply. Where the supply of drinking water was inadequate, it was owing to conditions which are at present irremediable.

Lavatory accommodation was on the whole satisfactory, and in places has improved during the last few years. A greater effort might be made to secure the maximum efficiency

of the existing accommodation. A dirty wash-basin without soap, or a moderately clean towel is a less useful addition than it should be, and a bad example to pupils.

Latrines showed all grades of efficiency, from excellent, either individual or automatic flushing, to the second grade with automatic flushing which does not take place often enough to be satisfactory, followed by the less efficient dry pail closets scavenged once a week, fortnightly and monthly. Some of these may be fairly satisfactory, and in the absence of a proper water supply, unfortunately cannot be bettered, but the last mentioned are wholly unsatisfactory, and the same may be said of the pail-less type.

Cloakroom accommodation in the older buildings is often quite inadequate. Greater attention is on the whole being paid to ventilation, lighting and heating.

Playgrounds. In some cases these are as good as one could wish for, but unfortunately many leave much to be desired. The leading fault is inequality and unsuitability of surfaces.

Cleanliness. The methods of cleansing might still be improved. It seems to be nowhere understood that the technique of cleansing is complicated and difficult. Cleansing is left to the unskilled and casual worker. It would be an improvement if periodic disinfection was carried out in addition to systematic cleansing."

Dr. A. V. Stocks reports as follows on the schools in his area (chiefly Mid-Cheshire):—

"Surroundings: the playgrounds of several schools are still in a bad state as regards the surface, the roughness of which had led to not a few accidents.

Heating: two schools have had new hot-water apparatus installed during the year with good results on the heating of the buildings.

Several stoves were found to be defective and in a dangerous state and were reported on.

Re-decoration of walls has been undertaken at not a few schools during the year: several schools are badly in need of it still.

One case of very bad flooring has been remedied satisfactorily since last year's report.

In one case trees that were obscuring the light have been cut down since reported on last year.

Downspouts and gutters were found in need of repair at five schools, and in several the yard drains needed attention.

Four schools are without any water supply of their own and have to obtain it from neighbouring cottages.

One school had a single wash-bowl for 95 children.

With the exception of these and a number of minor points, the sanitation and hygienic conditions of the schools, though far from perfect, could be called fairly satisfactory."

Medical Inspection.

The Tables at the end of this Report shew in detail the work which has been carried out. Summarising these it will be seen that the inspections have dealt with the following children :—

Routine Inspections	{	Entrants	6,497
		Intermediate Group (8-9 years)	5,213
		Leavers	6,801
		Total ..	
Special Inspections	{	Special Cases	4,744
		Re-Examinations	1,598
Grand Total of Individual Children Examined 23,358*			

* Some of these children were included in more than one group.

The Board's Schedule of inspection has been followed in all cases. Educational routine has not been interfered with and the co-operation of Head Teachers has been as cordial and as helpful as always. The inspections have always been conducted on school premises. The early ascertainment of crippling defects is done through our Health Visitors, who also act under the Maternity and Child Welfare and Tuberculosis Schemes of your Council.

Co-operation of Teachers and Others.

Not only Teachers but School Attendance Officers and Officials of the N.S.P.C.C. have, without exception, been most helpful in their respective rôles to all of us. In our turn we do all that is possible to assist them in the many problems of child-life which daily assail them.

Dr. Gladys Russell states :—

"The teachers continue to render most valuable service in connection with medical inspection. Indeed the interest of teachers in the physical well-being of the children under their

care continues to increase in a most encouraging fashion. Without their hearty co-operation, the more important aims of the school hygiene movement could scarcely hope to succeed. It is well that teachers should realise the extreme value of the services they are able to render. They can also do much by insisting upon cleanliness, the care of the teeth, proper breathing, proper position, and many other small details which are nevertheless of vast importance in the hygiene of childhood."

Co-operation of Parents.

In the case of the younger children mothers continued to attend the inspections in goodly numbers and it is, of course, in such cases that the presence of the mother is of such great value, not only from the point of view of securing a first-hand medical history but also because a personal talk accompanied perhaps by a demonstration goes deeper in than a printed or written instruction on a card.

Dr. Gladys Russell writes:—

"The number of parents attending the medical inspection of their children continues to increase, and their interest and appreciation have grown considerably. On an average 25 per cent. were present, but in one or two districts there was a record attendance of 100 per cent. Although their presence in considerable numbers may appear to cause undue disturbance, and perhaps some delay in the work of routine inspection, it has to be borne in mind that the advantages gained thereby more than compensate. For although school authorities may do much for the defective child through the agency of the medical officer, the school nurse, or the teacher, they can do still more for him by enlisting the sympathetic interest and co-operation of the parents. Their attendance at the medical inspection clearly offers an excellent opportunity for enlisting this interest and co-operation, and by tactful and sympathetic dealing, it is often possible to explain the nature of any defect, and to persuade the parent to obtain treatment for the child, and also to take advantage of the opportunity to direct the attention of the parent to important points in the home and personal hygiene of the child."

On the same subject Dr. Stocks reports:—

"The number of parents attending was greater than last year, both in the aggregate and proportionately to the number of children examined. Altogether 1,550 parents were interviewed, representing 30 per cent. of the children examined. Last year 1,100 were present, or 27 per cent. of those examined.

Objections to the examination on the part of parents are becoming fewer each year, and the number of parents who

appreciate the value of the medical inspection and desire to take full advantage of it for the benefit of their children, seems to be increasing."

The Findings of Medical Inspection.

Malnutrition. Forty-five cases of this condition were referred for treatment. Several of these were sent to the West Kirby Convalescent Home for a short period and the improvement was remarkable.

One hears of Medical Inspectors talking of "standards" by which this condition of malnutrition should be judged. I am of opinion that no standard is of much utility in forming a diagnosis of the condition. The signs and symptoms on which I rely for a diagnosis are the following:—

Pale colour of skin (noted when child has been sedentary and free from excitement for some time):

Skin harsh in texture:

If child be plump the fat it possesses is not firm:

Hair lacking in lustre:

Eyes dull in appearance and at times puffy and with bluish rings below lids:

Breath bad-smelling:

Dislike of ordinary foods—freakish appetite:

Height, weight and chest girth below average:

Posture slovenly:

Child is either listless and apathetic or nervous and jumpy:

Frequent headaches, bad sleep and nightmares:

When one considers that malnutrition if allowed to pass uncorrected may lead to rickets, spinal curvature, delay in eruption of permanent teeth, tuberculosis and the like the importance of searching it out and promptly dealing with it becomes imperative.

The important causes of this condition are too well known to need repetition, but I would like to emphasise two which in my opinion are most important, viz., over-excitement such as often results from too frequent patronage of picture-houses and insufficient sleep. It is most difficult to get parents to realise the value to the child of sufficient sleep. There is only one rule on this point which in my opinion has any practical value at all and that is that every child should have just as much sleep as it wants.

On this important matter Dr. Gladys Russell reports as under :—

“The nutrition of the children varies greatly in the different localities, and according to the home circumstances of the child.

In the great majority of the cases, malnutrition is due, not to deliberate neglect, but to the ignorance of the parents as to the food most suitable for children, and of the value of sleep and of fresh air. Good nutrition can only be maintained if good food is supplied, and if sufficiency of exercise, sleep and fresh air is provided. A lowered nutrition of the children is quite perceptible in the more populous districts, where unemployment still continues.”

Uncleanliness of Head and Body. The total number of uncleanly children found during the medical inspections in 1922 was 649—a markedly smaller number than in the previous year. The number of verminous heads found during the examination of 106,222 children by the Health Visitors was 3,091, or about 3.0 per cent. In a fair number of children the recurrence of this most undesirable condition has led to our reporting the cases to the N.S.P.C.C. and almost always with gratifying results. We have no arrangements for the cleansing of verminous children and no prosecutions have therefore taken place under Section 87 of the 1921 Act.

Scabies shows a marked decline as compared with the previous year, only 25 cases being reported and most of those occurring as part of a limited outbreak in one school. Here a special visit by one of my Assistants and the adoption of rigorous measures resulted in a speedy extermination of the disease.

Dr. A. V. Stocks reports as under :—

“It is gratifying to find a distinct improvement in the figures, as compared with last year. Very few cases were found in which actual pediculi were present and the percentage of cases in which nits were present has fallen from 6.3 last year to 3.4 this year, or actually 163 cases out of 4,810 examined. This is in no small measure due to the persistent efforts of the School Nurses, aided by Head Teachers.

Uncleanliness of the body was noted in 3.2 per cent. of the children examined.”

The following remarks of Dr. Gladys Russell on this subject are of interest :—

“Slowly and surely the standard of cleanliness is being raised, and coincidently an improvement in personal comfort and health is being effected—but even yet there is much room for improvement. The fashion of bobbed hair among girls

has helped by rendering the hair more easily cleansed and cared for. The number of nits varied from a few scattered among the hair, to large numbers closely placed along each separate hair. Many parents seem to be unaware of the fact, that when left alone the nits will quickly give rise to living vermin and these again to nits. The only satisfactory method is to wage daily warfare against the nits for about a week. If this is carried out in a proper manner the head will then be cleared of everything objectionable, and a constant watch should be maintained to prevent recurrence of fresh infection. The overcrowding of badly arranged cloak-rooms plays an important part in the distribution of vermin. A tactful and enthusiastic school nurse can do more than any other single agency, to keep down the prevalence of vermin.

The persistently verminous child presents a difficult problem, and one feels that little progress will be made until the condition of the home in these cases is investigated by the sanitary authorities and remedial measures taken where necessary. The importance of cleanliness cannot be over-estimated."

Eye Diseases. Excluding squint these numbered 673. The majority of these cases were Blepharitis (381), *i.e.*, inflammation of the edges of the lids, a condition often found in dirty children but sometimes occurring as a sequel of Measles or Scarlet Fever.

The number of cases of Squint recorded is very large, viz., 225 in all. Dr. Jacob, one of your Ophthalmic Surgeons, having recently pointed out to me that squint if taken in hand at an early age may be successfully dealt with by simple measures, I have now supplied all your Health Visitors with a number of the leaflets explaining how parents can deal with this condition so that when they meet with a child of 2 or 3 years of age suffering from squint they can leave this printed advice with the parents and explain how the advice should be carried out.

Conjunctivitis or inflammation of the inner lining of the eyelids and a part of the outer covering of the eyeball was discovered in 187 cases. Very few of these cases were of the muco purulent or epidemic variety. This disease is usually most prevalent in March, April and May, probably owing to infection or irritation of dust.

Dr. Stocks reports as under :—

"Blepharitis was not so common as last year, the numbers being 96, or 2 per cent., as against 2.5 per cent. in 1921. The new printed slip of instructions for the treatment of this

condition has been found extremely useful, and will undoubtedly aid in still further reducing the bad effects of this common malady.

Conjunctivitis also showed a decrease, only 19 cases being met with, or 0.4 per cent."

Defective Vision. The number of these cases shows a distinct increase in the figures recorded for 1922—probably owing to the fact that not so many sessions were put in by the Ophthalmic Surgeons during that year. No fewer than 2,217 children were referred for treatment for defective vision apart from other diseases of the eyes: 1,090 of these were discovered during routine inspections and 1,127 as the result of special examinations. At the routine inspections only the Snellen long-distance reading test is employed and, as is well known, many children can "put up a good show" under this test whose eyes are not free from defect but who can by a special strain overcome for the moment the drawbacks of the anatomical malformation of the eye. Teachers can greatly assist here if they are familiar with the signs of eye-strain.

On this subject Dr. Gladys Russell comments as under:—

"Perhaps one of the most important facts brought to light by medical inspection is the great prevalence of defective eyesight among school children. Having regard to the importance of vision as a channel of mental education, it would scarcely be possible to over-estimate the value of having these visual defects corrected and prevented. Defective eyesight was found in 5 per cent.—this includes re-examination of cases, where no treatment had been obtained, and cases where the correcting glasses had been procured, but were habitually left at home—supposed to be lost or broken."

Nose and Throat Diseases. There were discovered during the year 330 cases of enlarged tonsils, 243 cases of adenoid overgrowth and 231 cases of both conditions combined. This gives a total of 807 children with disease of the nose and throat, or about 3½ per cent. of those examined. Out of this total 365, or less than one half, received treatment during the year.

Dr. Stocks' findings are as follows:—

"The figures for seven of the largest schools were analysed and it was found that the tonsils showed definite enlargement of a slight degree in 10—11 per cent. Marked enlargement, accompanied by the presence of adenoids in most cases occurred in about 3.0 per cent. out of some 900 children examined.

Operative measures were not advised unless there was evidence that the presence of enlarged tonsils or adenoids was acting to the detriment of the child's health, as shown by ear disease or defective hearing, marked mouth breathing, frequent colds and chronic catarrh of nasal, pharyngeal or bronchial passages, mental backwardness, etc."

The experience of Dr. Gladys Russell in this matter agrees with the above. She writes:—

"On an average these occurred in about 9 per cent. of the children examined. It was encouraging to find among the re-examinations the marked improvement in those who had been operated upon; the better breathing, brighter expression, raised mentality, improved chest condition, and altogether better physique. In cases of less degree, where correct nasal hygiene had been thought sufficient, there was also a marked improvement when the treatment was conscientiously carried out."

Defective Teeth. Dental disease was recorded in the case of 1,392 children, *i.e.*, in 6 per cent. of those inspected by the Assistant Medical Officers. The School Dentist inspected 6,603 children at various schools and referred 5,284 of these for treatment, *i.e.*, 80.3 per cent. The large discrepancy between these figures is explainable chiefly by the fact that the Assistant Medical Officers record as requiring treatment only those children possessing 3 or more carious teeth or cases where sepsis is present. The remainder of the explanation is that the Dentist's examination is one by means of probe and mirror, whereas the Medical Officers only employ plant labels or lead pencils.

Dr. Gladys Russell reports as under on her area:—

"The number of children suffering from defective and diseased teeth is still large. About 12 per cent. had four or more teeth decayed. In the districts where the dental clinics are held there is a pleasing improvement in the condition of the children's mouths."

Ear Disease and Defective Hearing.

The experience recorded by Dr. Gladys Russell below appears to be pretty general. She states that:—

"Cases of deafness were often found to be due to obstruction of the Eustachian tube by some catarrhal condition of the naso-pharynx and adenoids; middle ear disease accounted for others; and in some cases it was merely due to excessive wax having accumulated in the external ear."

There are still many cases of neglected middle ear disease. Parents among the poorer classes become careless of a condition which tends to be exceedingly chronic, and to recur after apparent cure. They need to be impressed with the probable complete deafness that may follow neglect, and the more serious dangers that sometimes attend ear suppuration, from the spread of the disease to the brain itself."

Heart and Circulation. Under this heading there are noted 67 cases of organic heart disease, 6 of functional or evanescent heart disease and 40 cases of anaemia.

Tuberculosis. No definite cases of pulmonary tuberculosis were met with but 23 suspected cases were remitted to the District Tuberculosis Officers for further examination and observation. Other forms of tuberculosis were found in 22 children.

Mentally Defective Children. During the year 107 feeble-minded children were found attending Elementary Schools; 35 feeble-minded children of school age were reported as not attending school. In addition 4 imbecile children were found in attendance and were notified to the Local Authority.

There are 19 children attending Special Schools for the mentally defective.

The problem of dealing with imbeciles is exceedingly difficult. If a sufficient number in a limited area could be dealt with at an Occupation Centre this would afford a satisfactory solution of the problem. These Occupation Centres are springing up throughout the country and, though the only one I have seen near Cheshire did not enthuse me, I feel sure that properly organised they afford the only hope of providing something in the shape of training in habits and simple manual work which is likely to be available for some years.

Other Defective Children. This includes the following:—

Blind Children—

	No.
Attending Public Elementary Schools ...	5
" Certified Schools for the Blind ...	20
Not at School ...	3

Deaf and Dumb Children—

	No.
Attending Public Elementary Schools ...	12
" Certified Schools for the Deaf ...	25
Not at School ...	5

Epileptic Children—

Attending Public Elementary Schools	..	24
" Certified Schools for Epileptics	...	3
Not at School		6

Crippled Children—

(a) Tuberculous—

Attending Public Elementary Schools	...	104
In Uncertified Institutions	...	31
Not at School		29

(b) Causes other than Tuberculosis—

Attending Public Elementary Schools	..	101
Not at School		29

Other Physically Defective Children—

Attending Public Elementary Schools	...	387
" Certified Schools other than Open		
Air Schools	...	15
Not at School		37

Rickets. The number of cases of this condition discovered in Cheshire Schools during the past five years has only been a small one.

As remarked in previous Reports, rickets must not be regarded as a disease which merely affects bones but rather as one where the affection of the osseous system is only *one* of the manifestations of the disease. Almost every other system of the body may shew signs of rickets and certainly one may find its effects manifested in connection with muscles, ligaments, the blood, and the digestive and nervous systems. One of the outstanding features of rickets which is not sufficiently realised is its marked tendency to lower the power of the system to resist infection.

As to the causation of rickets I have come to the conclusion that there is not one sole cause but a number, including hereditary predisposition, previous diarrhœal disease, deficiency of thymus gland, dietetic defects (excessive carbohydrate consumption, deficiency in animal fat, calcium and phosphorus) and insufficient fresh air, sunshine and exercise.

The early recognition of the disease, as in most other affections of childhood, is the key to success in its treatment. The diagnosis can be made from the combination of head-sweating, paleness of face, restlessness in bed and throwing off the bed-clothes, toneless muscles, recurring digestive troubles, general fidgetiness and mental uneasiness. The value of sunlight, exercise, good hygienic conditions and cool

liver oil with phosphates is beyond any doubt and if these agencies are employed in the initial stages of the disease and maintained for a sufficient time no fears need be entertained as to the result. Though rickets does not kill, it helps other diseases to kill. The cruel deformities it produces at times can very largely be prevented.

Ringworm. The number of cases discovered was not a large one—46 in all. The system of allowing children who are under treatment to attend school whilst wearing a head-covering with a washable lining has continued to work satisfactorily. Recently the use of a new specific named Kathiolan, intended for use in cases of scabies, has been tried in cases of ringworm of the scalp. It is too early yet to speak very positively, but in the few cases of ringworm in which this remedial application has been tried it has proved quite a success and I intend to continue the trials.

Tuberculosis. On this subject Dr. McIvor reports:—

“The question has often arisen as to why more children suffering from tuberculosis have not been discovered in Elementary Schools.

Among the children referred during the past year by me to the Dispensaries on a diagnosis of suspected tuberculosis, some I considered to be cases of hilus tuberculosis, this being subsequently confirmed.

I make no pretence of original methods in the following note on the symptoms, physical signs, etc., relied on when suspecting the presence of a form of tuberculosis considered by many authorities to be incapable of diagnosis by clinical methods alone, an X-ray examination being also essential.

- (1) Pallor of the skin, pasty doughy appearance.
- (2) Defective expansion of the right lung, which normally expands more than the left.
- (3) Parasternal and para-vertebral dulness on deep percussion.
- (4) Whispering Pectoriloquy heard as far down as the fifth or sixth dorsal vertebra instead of the normal second.
- (5) History of *tuberculosis mesenterica* or old joint lesion or of tuberculosis affecting near relatives.”

Other Diseases. Dr. Stocks furnishes the following information:—

“Thyroid gland: Moderate enlargement was noted in 103 children or 2 per cent. of those examined.

Chorea: Comparatively few cases were seen. Less than a dozen cases of rheumatism were noted, but there is still a tendency among parents to believe in the old 'growing pains' fallacy, and in a number of cases it has been found that no idea of treatment or of possible sequelae was entertained. There is need for more emphasis on this point in both child welfare and school medical work in educating public opinion as to the importance of rheumatism in children. I have not infrequently been told by parents during the past year, 'I did not know rheumatism was a children's complaint.'

Congenital Abnormalities. Dr. W. J. McIvor has some interesting cases to report under this heading:—

"There were two children in perfect health who had transposition of the organs of the thorax and abdomen, the apex beat of the heart being on the right, while the liver was obviously on the left, etc.

Cervical rib, causing as yet no inconvenience or disability, was several times noted.

There were also several cases of congenital dislocation of hip joint, which had generally been operated upon with good result.

Among other interesting abnormalities were found two children showing pronounced diverse pigmentation of their irises. In one case one eye was grey and the other brown, for instance.

Children with blue sclerotics were occasionally seen.

Two children presented the disability of word blindness and word deafness respectively."

Causation of Round Shoulders. Dr. Melvor draws attention to some important matters under this heading. He writes as under:—

"This condition, often masking considerable lateral deviation or else scoliosis, is found as commonly in Elementary Schools by me as 1.6 per cent., which figure, although far short of that found in Secondary Schools, suggests that the seeds of the deformity are laid early.

Defective vision, more common in girls and attributed to the strain of needlework, is one of the factors in its causation. The stooping gait and flattened chest are often part of the inheritance of a former adenoid condition. In rapidly growing boys and girls, besides the stress of long

hours of close study upon their general health, there may well be the maintenance simultaneously of an incorrect carriage.

I would like to draw attention to a contributory cause for this bad posture in some of the Elementary Schools, at any rate, and to suggest a remedy. In some of them the older are forced to occupy seats made for far younger children and consequently sit in a regrettably crouched attitude, there being a scarcity of seats of suitable type, while at the same time, in other schools in the same area, where the attendance has decreased, there is a surplus.

Could not an exchange of seats be arranged when application is made?"

Infectious Diseases.

These have not been so generally prevalent as during the previous year. All too often Head Teachers wait until the infection has got a serious hold on the school before the matter is reported to me, though I think one cannot complain of this quite so much as a few years ago. The fetish of disinfection is still in possession of many teachers and managers, though cleansing and aeration are really all that is needed for any disease no matter the nature of the infection.

Dr. Stocks reports an interesting outbreak of diphtheria somewhat fully and I reproduce his remarks:—

"Amongst the epidemics of diphtheria investigated in the County last year was one at Chancel Lane School, Wilmslow, in which there appeared to be strong reason to suspect that the cases which kept arising at intervals in the same classroom, and even on the same row of desks, were being spread by infected pens or pencils.

At all events when the entire stock was burnt and each child kept its own separate articles the epidemic ceased.

It is interesting in view of this to read the result of an investigation undertaken by Surgeon Commander S. Dudley, R.N., the Professor of Pathology at the Medical School, Greenwich, into an outbreak at the Royal Naval School, Greenwich (reported in the *Times* of March 29th, 1923). One in every three boarders fell ill with either diphtheria or scarlet fever—300 cases in all—but not a single case of either disease occurred among the day boys.

For reasons that need not be gone into here direct infection was ruled out as incapable of explaining the facts.

It was then discovered that while the boarders used a common stock of pens, the day boys brought and used their own individually.

A series of experiments was undertaken and a penholder which had been sucked and bitten by a known case of diphtheria was used to stir up a tube of culture medium. A good growth of virulent diphtheria bacilli occurred. A similar penholder *which had been left fourteen days, dry, in a cupboard*, also produced virulent bacilli.

It was concluded that the epidemic had its origin in a box of communal penholders, one of which was bitten or sucked by a boy who had a heavy concentration of infective agent in his saliva.

To explain the immunity throughout of the day boys, the Professor produces a body of evidence in support of a new principle, namely, that in many or all infectious diseases there is 'certain minimal dose of infective agent necessary to cause the disease.' If a dose smaller than this is received it is destroyed by the defensive powers of the body.

This is the *quantity* factor; there is also manifestly a *time* factor. In other words, the infective dose may be 'collected by degrees rather than received as a whole in a moment of time.'

It follows that the velocity at which infection takes place equals the amount of infective agent received per hour minus the velocity of destruction of infection.

When the destruction is greater than the amount of infection received the velocity at which infection takes place becomes a negative quantity, and this is an index of the degree of immunity under the special conditions existing at the time.

There is also a *space* factor, and ventilation and humidity play a part. It is easy to see that the escape of the day boys could be explained on these suppositions, as both the time and space factors gave them every advantage over the boarders, who were together both day and night, while the former were widely separated.

The author points out that these principles explain the fact that during an epidemic of diphtheria or scarlet fever great numbers of people develop protection or immunity, without themselves getting the disease. They are obtaining doses smaller than the minimal infective dose. Further

every epidemic of 'evident disease' is accompanied by two hidden epidemics—*that* by which great numbers of people acquire protection as a result of small doses not causing symptoms, and *that* of 'contact carriers' who carry the infective material in their throats but are not themselves ill.

If true these principles are of the greatest interest and importance in relation to epidemics in schools."

Medical and other Treatment.

Following Up. Dr. Stocks has some interesting records on this matter which I quote in full:—

"The results of following up one thousand cases seen previously in 1921 or early in 1922 have been analysed and give these results:—

Eye disease and defects of vision—387 cases followed up.
 91 had obtained satisfactory glasses;
 9 had glasses prescribed but had not obtained them;
 35 eye disease cases were cured;
 38 eye disease cases were under treatment;
 65 cases were improved.

Total cured, treated or improved ... 239

Not treated, unchanged or worse ... 148

Out of 229 cases of tonsils, adenoids, etc., followed up—
 51 had been operated upon, mostly with excellent results;
 90 were found to be improved with or without other treatment;
 85 were unchanged.

Out of 175 cases of carious teeth followed up—
 82 had had dental treatment;
 49 were otherwise improved, chiefly by teeth falling out;
 44 had not been treated.

Out of 65 cases of skin disease or uncleanness—
 53 were found to be cured;
 12 were no better.

Of 39 cases of deafness or ear disease—
 23 were cured;
 12 were unchanged.

Of other conditions no exact figures can be given, but it may be said that twelve other necessary operations had been undertaken following on recommendations made last year.

Out of the thousand cases followed it may be said that 500, or one-half, were either cured or had received treatment."

Tonsils and Adenoids. During the year the rate-aided operative treatment of enlarged tonsils and of overgrown adenoids was suspended as part of the economy campaign. It is hoped, however, that it may be revived at no distant date. No one who knows the present-day position of the working classes can doubt that there are very many cases where it is quite impossible for parents to pay even a shilling or two towards the cost of an operation of this kind. And there are few nowadays who do not realise the immense importance of the hygiene of the nose and throat.

As has been pointed out by Mr. George Waugh, F.R.C.S., Senior Surgeon to the Great Ormond Street Children's Hospital:—"If only the infection of the tonsils were confined to the upper air-passages it would not be such a serious matter. But unfortunately there are two directions in which the tonsil can disperse infection—

- (1) By the route of the lymphatics to the cervical glands and the general system of the body.
- (2) By the route of the pharynx to the middle ear and alimentary canal."

In my last Report to your Committee I expressed the opinion that diseased tonsils ought to be *completely* removed and not merely pared down.

It is gratifying to note that Mr. Waugh in an article published in "Public Health" of March, 1923, considers that "100 per cent. of the patients suffering from enlarged unhealthy tonsils are entitled to have this operation for complete removal undertaken."

The treatment of diseased tonsils and adenoids by other than operative measures can undoubtedly be carried out successfully in many cases. I refer to breathing and sneezing exercises, local medicinal treatment, administration of certain glandular extracts and so forth. But these all demand a degree of persistence and a length of time which seriously impairs their utility. And operative treatment is now so safe and the beneficial results are so quickly manifest that few now prefer the more dilatory measures.

Dr. A. V. Stocks comments as follows on certain cases which he has specially observed:—

“The improvement resulting in the 51 cases that had been operated upon and seen again a year later was in most cases very marked. Amongst the beneficial effects noted were improved hearing, cured ear discharges, improved appearance and physique, and improvement in school work noticed by teachers.

The latter is undoubtedly due to the increased inflation of the lungs consequent upon the removal of obstruction in the air passages. It is of interest in this connection to note that Dr. Mumford, in examining a large number of boys at the Manchester Grammar School by means of specially-devised apparatus, has found a correlation between mental ability and amount of inflation of the lungs in breathing normally.”

Defective Vision. Dr. Jelly's Report for the year ending December 31st, 1922:—

“During the twelve months to which this report refers I have examined 1,571 children. I have prescribed 197 pairs of spectacles. This is exactly the same figure as the preceding year. I have recorded 207 cases of squint. Most of these squints are of the convergent, concomitant variety and it is my opinion that they arise from a defective fusion faculty. This fusion faculty may be definitely defective from birth, hence the marked tendency to squint seen in certain families, or it may be simply ill-developed, and then during certain illnesses, particularly measles, a squint may develop. I consider it inadvisable for children convalescing from infectious fevers to be allowed to read or play with small toys. I should also like to point out the danger of bandaging one eye for any length of time, for if the fusion faculty is weak a squint may be the result.

There have been no cases of infectious ophthalmia under my observation during the year.

Dr. Cyril Jacob's Report:—

“I beg to submit report on my work for the year ending December 31st, 1922:—

During the year I examined the eyes of 2,491 children in 148 schools in South and West Cheshire.

Where necessary advice was given to Head Teachers on such subjects as the position of desks and blackboards, lighting, posture of children and so forth.

In all cases requiring treatment or attention of any sort the parents or guardians of the children concerned were advised accordingly.

1,769 Children were examined for the first time. 725 were re-examined. Included in this latter number are all children who had been ordered or were wearing glasses obtained from any source.

In 223 cases no defect was found.

There were 1,104 cases of Hypermetropia and Hypermetropic Astigmatism; 98 cases of Myopia; 113 cases of Myopic Astigmatism; 108 cases of Mixed Astigmatism; and 32 cases of Anisometropia.

Of the total number of children examined, the percentage with Myopia, Myopic Astigmatism or Mixed Astigmatism was 12.79. These cases were proportionately more numerous in the more thickly populated areas and less so in the sparsely populated rural districts.

The most important cause of Myopia is probably the excessive convergence necessary when the eyes are used too much for close work or when the work is held too close to the eyes. Stooping over books or work by causing congestion of the eyes also favours the production and aggravation of Myopia. Heredity and ill-health are also important factors. The younger the child the more potent are these causes. To enable the child to see distinctly without having to hold his work too close, spectacles should be worn which accurately correct the astigmatism as well as the myopia. The importance of the spectacles fitting well and being properly centred cannot be over-estimated. Defective print or print which is too small should be avoided. Good lighting is very important, and should be arranged so that the light is on the left side and so placed that the rays fall on to the book or work and not into the children's eyes. Close work besides being held in the proper position must in these cases be restricted in amount, and should be undertaken for only short periods at a time so that the eyes do not have time to tire.

There were 358 cases of Convergent Squint of which in 141 cases the right was the squinting eye, the left in 191 cases, and alternating in 26 cases. In 7 cases there was vertical in addition to the convergent squint. There were 15 cases of Right Divergent Squint, 15 cases of Left Divergent Squint, and 2 of Alternating Divergent Squint. Heterophoria was noted in 46 cases. Among the cases of Squint 59 were blind in the squinting eye to the extent of not being able to fix with it.

In cases of Squint even more important than correcting the error of refraction by suitable glasses is the exercising of

the squinting eye which can be done by occluding the fixing eye for say 2 hours daily by means of a light bandage or shield. If however the child has reached the age of 7 and there is no power of fixation in the squinting eye it is then useless to attempt to improve its vision by exercise or any known means whatever. It is therefore extremely important to commence this treatment as early as possible.

There were 11 cases of Spasm of Accommodation, 1 of Old Penetrating Wounds of the Eyeball, 1 of Nystagmus, 4 of Congenital Cataract, 1 of Central Choroiditis, 1 of Right Anophthalmos, 3 of Persistent Pupillary Membrane, 2 of Buphthalmos, 2 of Coloboma of Iris, 2 of Coloboma of Iris and Choroid and 2 of Retinitis Proliferans. Cases of the following were also met with: Microphthalmos, Adherent Leucoma, Traumatic Cataract, Posterior Polar Cataract, Aphakia, Optic Atrophy, Nyctalopia and Left Anophthalmos.

There were 441 cases of External Eye Disease, of which 205 were of Blepharitis, 96 of Conjunctivitis, 31 of Corneal Opacities, 33 of Hordeolum, 27 of Angular Conjunctivitis, 15 of Phlyctenular Conjunctivitis, 9 of Lachrymal Obstruction, 8 of Chalazion, 1 of Phlyctenular Keratitis, 3 of Congenital Ptosis, 2 of Epicanthus, 2 of Corneal Ulcer, and 1 each of Lachrymal Fistula, Ectropion and Xerosis Conjunctivae.

Glasses were prescribed in 668 cases, of which number 161 had previously worn glasses. In 69 cases the wearing of glasses was advised to be discontinued.

In some of the schools in Ellesmere Port 12 cases of Angular Conjunctivitis were found and dealt with, but no serious outbreak of contagious eye disease was met with, and no case of Trachoma was seen.

The willing co-operation of the Head Teachers greatly facilitated the examination of the children, and the considerable influence they exercised with parents who seemed disinclined to carry out the treatment prescribed was most valuable."

The following is the Annual Report of the School Dental Surgeon, Mr. S. Whitworth, L.D.S. :—

"Overleaf you will find the figures for the past year on Treatment and Inspections carried out by nurse and myself. Compared with the previous year's report there are some very high figures. More than double the number of children have been treated during the period, over 3,000 more teeth have been extracted and just over 1,500 more attendances have been made at the Clinics. As against these figures we have a drop of 500 in the number of fillings inserted. These figures are accounted for by my adopting the scheme of clearing up the

septic months found in preference to spending the time on one or two cases and inserting fillings which are not satisfactory in the majority of cases, owing to the children neglecting to clean their teeth afterwards. Whenever possible, lectures have been given to the junior and senior children on care of the teeth and the reasons explained as simply as possible why they should clean their teeth. This seems to have done quite a lot of good judging by later inspections. The tooth brush drill and method of correctly cleaning the teeth has been explained. In my opinion, it would be a good plan to draw up a printed sheet on 'Tooth Brush Drill,' to be distributed to the schools so that they could all be taught the same and correct method. It is impossible for me to get to every school in the County, and by this method every child would receive the correct teaching. There is also the question which I raised last year of having a supply of cleansing materials supplied to the children at a reduced figure so that they will not be able to say that they cannot afford to buy these materials.

During the present year the figures will be totally different from any previous sent in owing to the carrying out of the scheme as laid down by the Inspector from the Ministry who visited us at the latter part of the year 1922. In the first place, instead of the number inspected being 6,000, it probably will not exceed 3,000. Also, no child is to be inspected or treated except those born in the years 1916, 1917 and 1918. All these children have to be inspected and charted up so that a permanent record is kept of each case. This to my mind is an ideal scheme where sufficient Dentists are employed to carry out the whole of the treatment throughout the County. It does not seem quite right that a favoured few only should receive this benefit. Another difficulty will arise at the end of 12 months when, according to instructions received from the Inspector, the 1919 class has to be taken in. This will probably increase my figures by at least 1,000. How the scheme will actually work I am not prepared to say, but I can see great difficulties ahead if more Dentists are not employed. It also seems a great pity to have to close up four of the Clinics where treatment has already been carried out and a demand made to me to try and give more time if possible. I am constantly being asked when I am going to visit different schools where they have heard that there is a School Dentist employed by the County but they have never seen him yet. It will, under the new scheme, be impossible for me now to ever get to these schools.

By the new scheme, it will mean, if properly carried out, that any child inspected and treated by me during the next 12 months will receive constant supervision until she reaches the age for leaving school. This means that when the child goes out to earn its own living, it should have a sound set of

teeth which are in a healthy condition. This is *not* the case at the present time in the majority of cases. Irregularities of teeth should also decrease to a very large extent owing to the temporary teeth being preserved until the correct age, and time for the permanent teeth erupting is reached. This should mean that the child will be able to masticate its food properly and should in consequence have better health generally throughout life. I am all in favour of the new scheme if it is possible to carry it out correctly, but I am afraid this will not be so owing to the necessary expense which will be involved. We should be able to pass a better opinion at the end of the present year on the general features of the scheme. At present there seems to be more clerical work to do than anything else. If the second Nurse is appointed as suggested by me, I think the figures should compare very favourably with last year. One point which strikes me as being very unfair is that cases marked up by the Doctors as being in a bad state are not coming to me for treatment. Also children suffering from abscessed teeth who have been refused treatment by private Dentists have also to be refused by me. Several of these cases have already been met with. The good work that has been done in the past with these cases is immediately undone unless some scheme can be found to embrace these cases."

Particulars of Time Given and Operations.

1st January, 1922, to 31st December, 1922.

No. of Half Days on Inspection.	No. of Half Days at Work.	Total No. At- tendances at Clinic.	Permanent.		Temporary.		Total Fillings.	Administra- tions of N ₂ O.	Sealings.	Dressings.	Silver Nitrate Treatments.
			Extractions.	Fillings.	Extractions.	Fillings.					
72	358	5432	1121	195	7739	52	247	128	65	553	35

Treatment of Dental Defects.

1st January, 1922, to 31st December, 1922.

Age Groups.

	5	6	7	8	9	10	11	12	13	14	Total.
Inspected at School ...	319	492	678	781	831	879	785	887	837	124	6603
Referred for Treatment ...	205	347	547	667	731	742	641	671	618	95	5284
Treatment Accepted ...	144	356	547	594	630	589	508	522	469	85	4441
Presented for Treatment ...	144	356	547	594	630	589	508	522	469	85	4441

Caries.

Dr. W. J. Melvor reports :—

"I had the opportunity of noting in the Sandbach area the marked beneficial results derived from the extraction of hopelessly decayed deciduous teeth, with or without conservative treatment, after one to two years had elapsed.

It was gratifying to record that the general health had improved; in some cases the apparently irretrievable damage to hearts and lungs had cleared up, local sepsis had disappeared, while arrest of the decay of other less damaged teeth was prominently in the picture, benefit accruing to affected tonsils and adenoids.

The children were mainly of the intermediate group, of about 8 years old.

In connection with oral sepsis the percentage of cases of gingivitis, so high as to suggest an epidemic cause in 1921 in Nantwich, has in 1922 decreased enormously throughout that area.

In order to eliminate errors I have adopted a broader standard in calculating the percentage of cases of dental sepsis in my area, and have taken into account all children with at least two apparently decayed teeth, especially if there was also present an unhealthy condition of the mouth.

In addition I have taken the percentage of children suffering from oral sepsis without any obvious caries. Many of the latter are examples of the deformed maxillae and overcrowded teeth of a neglected adenoid condition, the notorious habit of bolting their food, which mouth-breathers have, being directly responsible for the insufficient mastication of food, while at the same time their chief nourishment being naturally a sweet and soft diet, the vicious circle is thereby completed.

The figures relating to the schools in the larger towns, viz., Sandbach, Middlewich, Nantwich, Northwich and Winsford are grouped together as are those of the smaller country schools for contrast :—

Larger Towns :—

There were among 2,853 children :—

Caries with sepsis	...	10.0%
Oral sepsis, alone	...	6.5%
Total	...	16.5%

Country Schools :—

Among 2,256 children :—

Caries with sepsis	...	9.0%
Oral sepsis, alone	...	7.8%
Total	...	16.8%

These figures are notably better than those given for elsewhere in the Kingdom, as far as my knowledge goes. The low figure of the towns are largely due to efficient dental treatment and those of the country are probably the result of better diet and environment.

In 1921, my figures for oral sepsis were 7.0 per cent. of the whole number examined, and for children with four or more carious teeth 6.0 per cent.

Employment of School Children.

These are examined at the Chester Office, at various centres in the County and now and then by the District Tuberculosis Officers.

Dr. Stocks reports on his cases as under :—

“During the year I have examined some 337 children for certificates for employment before school in a morning, in accordance with the new Bye-laws. It has only been necessary to refuse permission in nine cases. Of these two suffered from bronchitis, two from anaemia, and one each from tonsillitis, cardiac disease, tuberculosis, chronic impetigo, and cellulitis.

One of the most beneficial results of the new Regulations has been the stopping of the employment of children under twelve: several cases have been noticed where this has greatly benefitted the children formerly so employed.”

Physical Training.

The following are some extracts from the Reports of Inspectors of Physical Training :—

REPORT BY MISS HART.

“During the twelve months ending March 31st, 1923, the usual inspection of Physical Training in the Elementary Schools under the County Authority has been carried on, two Folk Dancing Classes for Teachers have been held and three Demonstrations of Physical Training have been given.

General Inspection. The number of Departments visited during the year ending March 31st, 1923, is as follows :—

One Visit	...	...	138	Departments.
Two Visits	...	...	41	„
Three or more Visits	...	...	32	„
Total	...	...	211	„

Folk Dancing Class. At the request of Teachers in the Hoylake Area, a Folk Dancing Class for Teachers was started and about 30 Teachers attended. The fee was 5/- and the Teachers had to pay any fares incurred. At the end of the session the members of the class requested that a second course might be provided. This was done and 23 members were enrolled.

As a result of this Class Folk Dancing is being taught at several schools in and around West Kirby and Hoylake.

Demonstrations for Teachers. On June 23rd, 1922, a Demonstration of Physical Exercises, various games and Country Dances was given in the Tattenhall Council School and teachers from the district round about were invited to attend. The performers were drawn from the Tattenhall Council Senior and C.E. Junior Schools and boys and girls of all ages, from 6 to 14 years old, took part. The audience numbered 70, of whom 60 were teachers under the County Authority.

Similar Demonstrations, but on a larger scale, were held at Church Drive Council School, Port Sunlight.

General Review of the Past Ten Years. Ten years ago many Teachers considered Physical Exercises a pure waste of time which could more profitably be devoted to arithmetic. If the children did not stand still on the spot or ran to make a line instead of walking they were considered disorderly.

The removal of coats and collars was unknown and the Organiser was regarded as eccentric to suggest such a thing.

Girls were dressed in tight frocks, unsuitable underclothes and not infrequently boned corsets, but by dint of carrying from place to place small specimens of a 'Liberty bodice,' tunic and knickers, and various patterns of home-made slippers much was done to improve the children's costume.

Before the appointment of Organisers of Physical Training Organised Games were played in the Altrincham, Sale and Nantwich districts, but I think in no other Schools in the County. At the present time a great many of the schools have Organised Games fields and some of the other Schools have a special time for Games in the playground. The equipment for Organised Games, the Games and dance books provided by the Authority have largely contributed to the improvement of the recreational side of the work and I personally have assisted as far as possible by lending my own books to any teachers who cared to borrow them.

In some areas sports are now held annually either by individual schools or by schools in combination.

A number of teachers have, at different times and some at their own expense, attended summer schools of Physical Training and the Country Dance Courses arranged in the holidays by the L. F. D. S.

I feel that I should like to mention the efforts made by the teachers, particularly the older and the married women teachers, to improve their knowledge of Physical Training. The interest shown by teachers and children has made it possible for me to take a very deep personal interest in the work.

REPORT BY MISS WARREN.

Classes in Games and Dancing. During July and September six informal classes have been given at the Bredbury Council School for teachers of the Bredbury, Romiley and Marple Schools.

Swimming. All Classes taking Swimming have been visited at the Public Baths.

Teachers need help in this subject: they should be instructed how to teach large numbers of children; take land drill, &c.

During the summer months the following plans were adopted:—

- (a) All Schools visited where work had not yet been seen during the past year.
- (b) Schools visited where only indoor work had been seen.
- (c) Special attention paid to Infant Schools where Teachers had attended demonstrations. (In all cases teachers are using the improvised apparatus suggested at demonstrations).
- (d) Outlying rural Schools visited (*i.e.*, Schools unable to attend a centre for demonstrations, &c.) Demonstrations given in the individual Schools.
- (e) Dancing outdoors to a gramophone started at:—
Sale, Springfield Road, Seniors.
Sandbach C.E. Junior Boys.
- (f) Second visits paid to several Schools to organise dancing throughout the School.

Observations.

- (a) In many cases playgrounds are in a very poor condition, and either too wet or too dusty to be used. Often large stones make the surface very dangerous, especially for Infants.

- (b) In many of the Infants Schools a good book of Singing Games is required.
- (c) Balls (tennis size and football) and rope for jumping and skipping are required in most of the Schools to carry out the spirit of the 1919 Board of Education Syllabus.
- (d) Everywhere the teachers are keen and eager to attend demonstrations, classes, &c.
- (e) Almost everywhere the teachers need instruction in Folk Dancing. Where it has been given and classes taken excellent results have been obtained. Where tried, dancing in the playground to a gramophone has proved highly satisfactory. A gramophone can usually be lent, the difficulty is to obtain records.
- (f) In the Schools where there is no Hall teachers would welcome help with classroom lessons. At present the time is usually wasted, or else the Physical Training lesson not taken at all.
- (g) There still seems to be some confusion about the minimum and maximum amount of Physical Training per week, best place in time-table, &c.
- (h) More fields are needed for Organised Games.
- (i) During the past year Organised Games have not been seen by me. I have concentrated on Physical Training and Dancing. I think in many cases children need to play harder games, have more variety, encourage team spirit, &c.
- (j) In very few Schools do the girls make and wear tunics. I intended inquiring into this matter on future visits.
- (k) In quite a considerable number of Schools children change their shoes for dancing. More shoes could be made in Schools if teachers were given a pattern (this has been done in some cases).

Everywhere I found the teachers greatly appreciate a demonstration lesson given in the School, also new ideas for classroom work."

REPORT BY MR. HALL.

"During the past year there has been an increased interest among teachers in Physical Education, and the value of the subject in its widest sense has been more fully recognised. There has been a much happier spirit in the work which has had a beneficial effect upon the general school life of the boys. Very satisfactory progress has been made in a large majority of schools, and the scholars enjoy the work and eagerly look forward to their lessons. The fuller development of the team

system has added increased interest, and many Headmasters have stated the great assistance they have obtained from this system, the keener interest it has stimulated, and the higher standard of work it has produced. In many schools excellent charts, with distinctly original ideas, have been made by the boys themselves, team captains having been responsible for the records.

The importance of Teachers' Classes and Demonstrations cannot be over-estimated, the work carried out in these Classes and Demonstrations having had a very beneficial effect upon the work in the Schools, due chiefly to a much fuller understanding of the subject by the teachers. The interest in the work by many teachers has been shown by the demands for such Classes, and also by the difficulties presented to the Physical Training Inspector for explanation during the ordinary visits to Schools. Such assistance has been welcomed by the teachers.

In the smaller rural Schools more attention should be paid to posture and general deportment, as well as to exercises which encourage quick response and alertness. Mental rather than muscular effort should be encouraged, as rural children have usually unbounded facilities for general exercise, especially in long walks to and from school.

It is pleasing to note the improvement in indoor work, but only when conditions outside make outdoor work impossible should this be resorted to. Although no indoor lesson can be entirely satisfactory there is no reason why such a lesson should be omitted. Many short and interesting lessons have been seen, best use being made of available accommodation. More attention should however be paid to ventilation, and classrooms should be regularly flushed with fresh air.

More attention should be paid to clothing. Boys' collars should always be removed, and whenever possible caps and coats, lessons always being adapted to weather conditions. Several Schools have made a noteworthy effort in the provision of shoes, some having been made in Schools, whilst many scholars bring shoes to School specially for Physical Training lessons.

The number of Schools with special provision for Organised Games has increased during the year. Several more playing fields have been obtained, and in many cases, games apparatus has been obtained by special effort in the Schools. A larger selection of games should be made, and inter-team competitions in smaller gymnastic games and athletic events should be arranged. Football and cricket, in their respective

season, have the monopoly in many Schools, and it is generally the more proficient boys who receive the most attention. In general inter-team contests each boy is assured of an active part under the best supervision. The playing of inter-school games is contrary to the spirit of Organised Games and should be discouraged.

By a series of lecture-demonstrations, given in those areas where facilities for the teaching of Swimming exists, an effort has been made during the year to show the most practical and efficient methods of teaching swimming to a class as a whole, as opposed to the individual method. Preparation for actual water exercises by 'land drill' was fully explained and demonstrated, and the method of making the fullest use possible of the short time available for water drill was explained. These demonstrations were well attended and helpful discussions followed. In the majority of Schools the methods were adopted with good and very encouraging results. Headmasters have reported a decided increase in the number of swimmers, who have acquired a good style, and have taken a much shorter time to reach proficiency than formerly. The Land and Water Drill should be practised in all Schools where Swimming instruction is part of the Physical Training Scheme. The provision of certificates for various stages of proficiency would be a distinct encouragement to the scholars. School swimming galas have been well organised and have proved a source of great interest in the various Schools concerned."

Miscellaneous Work.

This includes special examinations of children who desire to take swimming instruction and of scholarship candidates.

In a few instances where doubt has existed as to the effect of a medical certificate in a chronic case I have arranged a consultation with the practitioner concerned or written to him confidentially and have always managed to "clear the air."

Secondary Schools.

The following is a list of these in the County. In all of them we have carried out the medical inspection on the scheduled lines during the year:—

- (1) Secondary Schools in regard to which the Authority have a statutory obligation to inspect:—

Altrincham County High School for Boys.

Altrincham County High School for Girls.

Calday Grange Grammar.

Crewe County Secondary.

Hyde County.

Macclesfield County High School for Girls.
 Nantwich and Acton Grammar.
 Runcorn County.
 Sale County High School for Girls.
 West Kirby County High School for Girls.

(2) Secondary Schools that have requested the Authority to conduct the medical inspection:—

Lymm Grammar.
 Macclesfield Grammar.
 Sandbach Grammar.

The Lady Assistant Medical Officers conduct the examination of all girl scholars in these schools.

Notes on the Defects, etc., of Pupils about to leave Secondary Schools.

Writing of the Girls' Schools inspected by her Dr. Gladys Russell reports:—

"The general standard of health among the Secondary School pupils was much superior to that found in Elementary Schools. The majority of the parents were present at the medical inspection, and they were always very willing to consult their own doctors with a view to having any defect remedied. The Head Master or Mistress communicated with any parent who was unable to attend, and whose child required treatment.

The physique was on the whole satisfactory, but several cases of round shoulders, and slight cases of spinal curvature from bad position were seen among the entrants, whose previous physical training had been inadequate. Anæmia and slight enlargement of the thyroid gland were seen in many of the girls about puberty. The commonest defect which required attention was that of defective vision."

Dr. W. J. Melvor presents the following report:—

"Among 84 boys of this category, whom I had the opportunity of inspecting several times during the past two years, the tendency to improvement or otherwise of various defects as found now are perhaps worthy of reference. The usual headings are employed.

Vision. Just under 20 per cent. had error of refraction and over 80 per cent. of these had had their vision corrected by suitable glasses. In one school there appeared to be a

progressive increase of the percentage of errors of refraction with the age. For instance, at 12 years 10 per cent. had defective vision, at 13, 25 per cent., and among the leavers 33 per cent.

Dental Caries. One school deserves special notice, viz., Crewe Secondary School, only one boy in this specially noted 84 having a few decayed teeth, less than four. That is to say, 90 per cent. of those noted formerly as requiring dental treatment had received it. As regards those of the group under survey, who were in other Secondary Schools, 50 per cent. had now no neglected teeth. Also less than four per cent. of the total number of these leavers had more than four decayed teeth, though 20 per cent. had less than this. There is thus some room for improvement, there being a tendency recently in many neighbourhoods to adopt a false economy and forego the 'luxury' of the dentist.

Nutrition. Seven per cent. were thin or undersized, a much smaller figure than found among the entrants. Twenty per cent. were recorded as having improved, one boy only being considered to actually have deteriorated.

Hearing. Of the boys formerly having defective hearing the majority, 78 per cent., were now considered normal.

Heart and Circulation. Systolic murmurs, moderate increase of superficial cardiac dulness or the presence of a thrill are frequently noted. Systolic murmurs occur among those of imperfect health; and, as proved by X-ray examination, the area of superficial cardiac dulness varies in normal health within wide limits. As regards the presence of a thrill palpable over the præcordia, the clinical value of this sign alone has been discounted by me as it was observed to occur very frequently, viz., in 10 per cent. of the 300 boys in Secondary Schools among whom it was specially looked for. Though the detection of a thrill is one of the classical physical signs of mitral stenosis, it is often present in anæmia and in other cases it is functional, accompanying some enlargement of the thyroid gland.

Two boys only in my group of 84 showed any trace of anæmia. Three previously under observation and treatment had recovered fully.

Two boys had been under observation owing to a valvular defect of the heart, viz., mitral stenosis, and in both of these there is now satisfactory compensation. The parents of such boys are naturally advised as to the choice of their careers.

Lungs. Here we have 12 per cent. showing more or less defective expansion of the lungs and imperfect development of the thorax, all being slightly round-shouldered with, sometimes, a moderate degree of lateral curvature. This agrees with the general conditions of the nose and throat.

Nose and Throat. Here we find again 12 per cent. of chronic catarrhal affections and 6 per cent. of varying degrees of obstruction, though 50 per cent. of the latter were noticed to have a freer airway than formerly.

Glands. In confirmation of the above figures, 60 per cent. of those having enlarged cervical or submaxillary glands formerly are now free, and in only two boys was the adenitis more pronounced.

Nervous System. Nervous instability, common among entrants, was not found at all among the special group of leavers under survey who attended one particular school; while in two other schools 20 and 50 per cent. respectively of those so affected at one time presented no evidence of it now."

APPENDIX I.

STATISTICAL TABLES.

Public Elementary Schools.

Table I.—Number of Children Inspected 1st January, 1922, to 31st December, 1922.

(A.) "Code" Groups.

(B.) Groups other than "Code."

Ages.	ENTRANTS.						Inter-mediate Group.	LEAVERS				Grand Total.	Special Cases.	Re-examinations (i.e. No. of Children re-examined)
	3	4	5	6	Other Total.	8-9	11	12	13	14	Other Total.			
Boys	118	612	1391	906	2669	3296	2602	503	2028	925	59	10	2197	796
Girls	102	512	1269	949	257	3201	2841	448	1909	956	75	5	2544	892
Totals...	220	1124	2781	1846	526	6497	5243	984	3947	1781	174	15	4741	1598

(c) Total Number of individual Children inspected by the Medical Officer, whether as Routine or Special Cases—23358.

Table II. — Return of Defects found in the course of
Medical Inspections in 1922.

DEFECT OR DISEASE.	ROUTINE INSPECTION	SPECIALS.
	Number Referred for Treatment.	Number Referred for Treatment.
MALNUTRITION	41	4
UNCLEANLINESS—		
Head ...	661	35
Body ...	43	4
SKIN—		
Ringworm—		
Head ...	38	6
Body ...	2	—
Scabies ...	23	2
Impetigo ...	162	3
Other Diseases	8	—
EYE—		
Blepharitis	95	239
Conjunctivitis	18	169
Keratitis	—	3
Corneal Ulcer	—	7
Corneal Opacities	—	11
Defective Vision	1090	1127
Squint	22	203
Other Conditions	—	81
EAR—		
Defective Hearing	52	11
Other Ear Diseases	128	17
NOSE AND THROAT		
Enlarged Tonsils	319	11
Adenoids	225	18
Enlarged Tonsils & Adenoids	219	15
Enlarged Cervical Glands (Non-Tubercular)	47	2
DEFECTIVE SPEECH	3	4
TEETH—Dental Diseases	1310	52
HEART AND CIRCULATION		
Heart Disease—		
Organic	67	—
Functional	6	—
Anemia ...	39	1
LUNGS—		
Bronchitis	38	1
Other Non-Tubercular Diseases	—	—
TUBERCULOSIS—		
Pulmonary—		
Definite	—	—
Suspected	22	1
Non-pulmonary—		
Glands	12	—
Spine	1	—
Hip	2	—
Other Bones and Joints	4	—
Skin	3	—
NERVOUS SYSTEM—		
Epilepsy	—	7
Chorea	48	2
Other Conditions	4	—
DEFORMITIES—		
Rickets	7	4
Spinal Curvature	5	—
Other Forms	5	—
OTHER DEFECTS AND DISEASES	135	10

Number of individual Children having defects which required treatment—6943
NOTE—From this number there should be subtracted about 500 children
having more than one defect, also about 243 examined by Oculists after
examination by School Doctors.

TABLE III. — Numerical Return of all Exceptional Children in the Area in 1922.

		Boys.	Girls.	Total.
BLIND				
(Including partially blind within the meaning of the Elementary Education Bill, 1918, 1921)	Attending Public Elementary Schools	2	3	5
	Attending Certified Schools for the Blind	16	10	26
	Not at School	1	2	3
DEAF & DUMB				
(Including partially deaf within the meaning of the Elementary Education Bill, 1918, 1921)	Attending Public Elementary Schools	6	4	12
	Attending Certified Schools for the Deaf	12	13	25
	Not at School	2	3	5
MENTALLY DEFICIENT				
Feeble-minded				
	Attending Public Elementary Schools	65	42	107
	Attending Certified Schools for Mentally Defective Children	12	7	19
	Noted to the Local (Control) Authority by Local Education Authority during Year	—	—	—
	Not at School	19	15	35
Idiotism	At School (notified)	2	2	4
	Not at School (notified)	40	38	87
Imbecility	At School	—	—	—
	Not at School	—	—	—
EPILEPTICS				
	Attending Public Elementary Schools	13	11	24
	Attending Certified Schools for Epileptics	—	3	3
	In Institutions other than Certified Schools	—	—	—
	Not at School	3	3	6
Primary Tuberculosis				
	Attending Public Elementary Schools	12	15	27
	Attending Certified Schools for Physically Defective Children	—	—	—
	In Institutions other than Certified Schools	1	7	11
	Not at School	7	6	13
PHYSICALLY DEFECTIVE				
Crippling due to Tuberculosis				
	Attending Public Elementary Schools	64	40	104
	Attending Certified Schools for Physically Defective Children	—	—	—
	In Institutions other than Certified Schools	20	11	31
	Not at School	13	11	29
Crippling due to causes other than Tuberculosis, i.e., Paralysis, Rickets, Traumatism				
	Attending Public Elementary Schools	64	40	104
	Attending Certified Schools for Physically Defective Children	—	—	—
	In Institutions other than Certified Schools	—	—	—
	Not at School	13	11	29
Other physically defective, e.g., delicate and other Children suitable for admission to Open-Air Schools; Children suffering from severe Heart Disease				
	Attending Public Elementary Schools	146	11	157
	Attending Open-Air Schools	—	—	—
	Attending Certified Schools for Physically Defective Children other than Open-Air School	—	7	15
	Not at School	21	10	37
Dull or backward				
	Retarded 2 years	—	—	—
	Retarded 3 years	—	—	—

(no reliable figures)

TABLE IV.—Treatment of Defects of Children during 1922.

A. Treatment of Minor Ailments.

Disease or Defect.				Number of Children.		Total.
				Referred for Treatment.	Treated. Under Local Education Authority's Scheme. Otherwise.	
SKIN.	Ringworm—Head	...	...	44	—	30
	Ringworm—Body	...	...	2	—	2
	Scabies	...	...	25	—	23
	Impetigo	...	...	165	—	151
	Minor Injuries	...	...	—	—	—
	Other Skin Disease	...	...	8	—	6
EYE DISEASE	...	...	...	208	—	120
EYE DISEASE (external & other)	...	...	...	592	387	45
				1064	387	764

B. Treatment of Visual Defect.

Number of Children.									
Referred for Refraction.	Submitted to Refraction.				For whom Glasses were prescribed.	For whom Glasses were provided.	Recommended for Treatment other than by Glasses.	Received other forms of Treatment.	For whom no Treatment was considered necessary.
	Under Local Education Authority's Scheme, Clinic or Hospital.	By Private Practitioner or Hospital.	Otherwise.	Total.					
2412	1600	241	59	1900	1206	696	205	101	518

C. Treatment of Defects of Nose and Throat.

Number of Children.				
Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.
	Under Local Education Authority's Scheme, Clinic or Hospital.	By Private Practitioner or Hospital.	Total.	
200	74	149	223	142

Table IV. (continued). D.—Treatment of Dental Defects.

1. Number of Children dealt with.

	Age Groups.										Total
	5	6	7	8	9	10	11	12	13	14	
(a) Inspected at School	312	492	578	761	831	579	785	247	847	124	6,003
(b) Referred for Treatment	215	347	517	637	731	742	641	671	618	95	5,234
(c) Treatment accepted	144	316	547	594	630	503	503	522	469	85	4,444
(d) Presented for Treatment	144	316	547	594	630	503	503	522	469	85	4,444

2. Particulars of time given and of operations undertaken

No. of half days on Inspection	No. of half days at Work.	Total No. of attendances at Clinic	Permanent		Temporary		Total Fillings.	Administration of N_2O .	Sealings.	Dressings.	Silver Nitrate Treatment.
			Extractions.	Fillings.	Extractions.	Fillings.					
72	598	5,182	1121	195	7759	52	247	123	65	553	39

E. Treatment of Uncleanliness.

- (a) Average number of visits per annum made by the School Nurses to each School ... 3
- (b) Total number of Examinations made of Children by School Nurses in the year in the Schools ... 106,222
- (c) Number of individual Children found unclean (verminous heads) ... 3,094
- (d) Arrangements made by the Authority for cleansing and number of Children cleansed under these arrangements ... Nil.
- (e) Record of Legal Proceedings taken under the Children Act, 1908, or the School Attendance Bye laws ... Nil.

TABLE V. Summary of Treatment of Defects as shown in Table IV. (A, B, C, D & F, but excluding E).

Disease or Defect.	Referred for Treatment.	Number of Children.		
		Under Local Education Authority's Scheme.	Otherwise.	Total.
Minor Ailments ..	1064	327	377	764
Visual Defects ..	2422	530	266	796
Defects of Nose and Throat ...	807	74	291	365
Dental Defects ...	6176	4444	417	4361
Other Defects ..	1128	...	781	731
TOTAL ..	11597	5435	2132	7567

TABLE VI. Summary relating to Children Medically Inspected at the Routine Inspections during the year 1922.

- (1) The total number of children Medically Inspected at the routine inspection. ... 18541
- (2) The number of children in (1) suffering from—
- | | |
|--|------|
| Malnutrition (grave cases) .. | 41 |
| Skin Disease .. | 253 |
| Defective Vision (including Squint) .. | 1162 |
| Eye Disease .. | 113 |
| Defective Hearing .. | 52 |
| Ear Disease .. | 124 |
| Nose and Throat Disease .. | 763 |
| Enlarged Cervical Glands (Non-tubercular) .. | 47 |
| Defective Speech .. | 3 |
| Dental Disease .. | 1340 |
| Heart Disease .. | |
| Organic .. | 67 |
| Functional .. | 6 |
| Anæmia .. | 39 |
| Lung Disease (Non-tubercular) .. | 38 |
| Tuberculosis— | |
| Pulmonary { Definite .. | ... |
| { Suspected .. | 22 |
| Non-pulmonary .. | 22 |
| Disease of the Nervous System .. | 52 |
| Deformities .. | 17 |
| Other defects and diseases .. | 136 |
- (3) The number of children in (1) who were referred for treatment (excluding uncleanness, defective clothing, etc.) ... 3309
- (4) The number of children in (3) who received treatment for one or more defects (excluding uncleanness, defective clothing, etc.) ... 1827

APPENDIX II.

STATISTICAL TABLES.

Secondary Schools.

TABLE I.—Shewing Number of Children Examined at Different Ages.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total.
Ages																	
Boys	—	—	—	2	5	32	41	36	127	210	79	57	164	93	42	13	910
Girls	—	2	17	44	27	33	35	47	81	133	69	40	35	21	40	17	676
Totals	—	2	17	46	32	70	76	83	208	367	148	106	199	114	93	30	1586

Re-examinations.		Grand Total.	
Boys	...	123	...
Girls	...	8	...
		<u>131</u>	<u>1717</u>

Table II. Showing Nature of Defects referred to for Treatment and cases where Defects were Remedied.

DEFECT OR DISEASE.				Referred for Treatment.	Received Treatment
MALNUTRITION				—	—
UNCLEANLINESS				—	—
Head	...	...	...	—	—
Body	...	...	...	6	6
SKIN				—	—
RINGWORM				—	—
Head	...	...	...	—	—
Body	...	...	...	—	—
Scabies	...	...	...	—	—
Impetigo	...	...	...	1	1
Other Disease	...	...	...	—	—
EYE				—	—
Defective Vision or Squint	...	...	...	86	64
External Eye Disease	...	...	...	2	2
EAR				—	—
Defective Hearing	...	...	...	—	—
Ear Disease	...	...	...	1	1
TEETH				—	—
Dental Disease	...	...	...	48	38
NOSE AND THROAT				—	—
Enlarged Tonsils	...	...	...	6	4
Adenoids	...	...	...	7	7
Defective Speech	...	...	...	—	—
Tonsils and Adenoids	...	...	...	2	2
HEART AND CIRCULATION				—	—
Heart Disease				—	—
Organic	...	...	...	8	8
Functional	...	...	...	—	—
Anemia	...	...	...	10	9
LUNGS				—	—
Pulmonary Tuberculosis				—	—
Definite	...	...	...	—	—
Suspected	...	...	...	1	1
Chronic Bronchitis	...	...	...	1	1
Other Disease	...	...	...	—	—
NERVOUS SYSTEM				—	—
Epilepsy	...	...	...	—	—
Chorea	...	...	...	3	2
Other Disease	...	...	...	—	—
NON PULMONARY TUBERCULOSIS				—	—
Glands	...	...	...	—	—
Bones and Joints	...	...	...	—	—
Spine	...	...	...	—	—
Hip	...	...	...	—	—
Other Forms	...	...	...	—	—
Rickets	...	...	...	—	—
Deformities - Spinal Curvature	...	...	...	9	7
Other Defects or Diseases	...	...	...	16	13
Cervical Glands	...	...	...	2	2

